3. Methodology

The pottery under study comes from the stratified deposits of Neolithic and post-Neolithic sites such as Sanarachamma and Hiregudda (in the Sanganakallu-Kupgal complex) Hallur-on-Tungabhada, Kurugodu and Rupanagudi, the latter from the Kurnool district.

3.1 Data Collection

Excavations at Sanganakallu in 2004 provided for most of the pottery for the present study. Pottery from Hallur and Rupanagudi comes from earlier excavations (Fuller et al., 2001). Hallur, Kurugodu and Rupanagudi were excavated in 1998 (Fuller et al., 2001). Pottery from Hallur and Rupanagudi is from the Neolithic levels and those from Sanganakallu belong to ashmound, post ashmound and Early Iron Age. The amount of pottery varies from site to site and therefore, detailed studies were carried on pottery from well defined contexts.

3.2 Classification

Pottery from Sanarachamma and Hiregudda were studied in greater detail than those from the other sites. Pottery from Sanarachamma and Hiregudda was subject to a technological analysis, based on the surface features noticeable on both external and internal surfaces. This facilitates grouping of pottery in terms of variation in the technology. Both rims and body sherds were further classified into various technological groups. These groups are not all inclusive and some overlap of the groups is possible.
3.3 Typological Study

Typological analysis was carried out by taking into consideration the shape and diameter of the rims, which were either restricted or unrestricted forms. The form of the pot was determined by classifying the orientation of the rim and lip and body sherds particularly neck as being convex, concave or straight. The ceramic typological model of Allchin (1962) has been considered as a reference typology.

3.4 Macroscopic Fabric

The fabric of the wares was recorded at the macrosopic level. Fresh breaks were made and these were studied with a hand held lens of low magnification (10x). The degree of porosity was recorded as being low, medium or high. The frequency of inclusions in the fabric and its percentage was also calculated. Percentage of inclusion was estimated with the aid of the Percentage Inclusion estimation chart given by Mathew et al. (1991). Some notable inclusions like quartz, mica and biotite were observed and recorded.

3.5 Physical Tests

In order to measure the hardness of the pottery a durometer with Shore's scale of hardness was used. Six measures of hardness were taken from a large number of sherds from each technical group (from 10 sherds if the group is large and from fewer sherds if the technical group is smaller). In this study the hardness was measured on Shore's durometer. There are various scales in the durometer, used for materials with different properties. The two most common scales, using slightly different measurement systems are, the ASTM D2240 type A and type D scales. The A scale is for softer plastics, while the D scale is for harder ones. The durometer with D scale has a hardened steel rod of 1.1 mm – 1.4 mm diameter with a 30° conical point, 0.1
mm radius tip. The final value of the hardness depends on the depth of the indenter's penetration. If the indenter penetrates 2.5mm or more into the material, the durometer is 0 for that scale. If it does not penetrate at all, then the durometer is 100 for that scale. The scale results in a value between 0 and 100, with higher values indicating a harder material. This test of hardness will throw more light on the firing conditions.

A test of apparent porosity is conducted on the sherds belonging to the major technological groups. Porosity is of interest in ceramic studies because of its functionality and also because it has technological implications. Porosity levels of pottery give valuable information on the composition of the clay and also the clay preparation techniques. Surface finishing techniques and firing methods influence the porosity of the pottery. So, a study of apparent porosity can provide valuable information on all the aspects of pottery production from the raw material composition to its preparation to firing. The procedure of the test of apparent porosity as given by Shepard (1985) is followed. The weights of the sherds on which the test was performed, were recorded when they were dry and the volumes were also recorded of individual sherds. Then, they were allowed to saturate by boiling in distilled water for two hours. These sherds were boiled in a suspended state and were not allowed to touch the bottom of the vessel to prevent abrasion. The weights of the wet sherds were taken immediately to prevent loss of water through evaporation. The ratio of the difference in weights to the volume of the sherds gives the index of apparent porosity (Shepard, 1985).

3.6 Quantitative Analysis

Simple statistical tools have been used to understand the variations within and among technological groups throughout the occupation of the site of Sannarachamma.
Quantitative estimations were made to understand the proportion of different major
types in each technological group. Quantification of major types in each technological
group has also been made.

3.7 Ethnoarchaeological Study

During the course of field work in 2004 and 2006, potters from the village of
Sanganakallu were interviewed as an attempt to understand the modern potting
techniques. Although the modern techniques of pottery production in Sanganakallu
are fundamentally different from that of the Neolithic period, it does provide valuable
information on raw material procurement and clay preparation techniques. A detailed
description is given in the concerned chapter.

Experiments were conducted to test whether inclusion of vitrified ashmound
material was deliberate and the possibility of the use of the potter’s tool as smoothing
tools and the burnishing being done by wet pebbles. The experiment which involved
the Ashmound material required the expertise and firing facilities. So, the services of
a potter in Sanganakallu village were taken. The other experiments were conducted in
the pottery yard by Degoy-Thotakura and me.

The above methodology was applied mostly to the pottery from
Sannarachamma and Hiregudda. The pottery samples from other sites were studied
differently. The physical tests and the fabric of pottery from the other sites were not
conducted. An attempt to understand the technology was made and the pottery
classified into the technological groups. New groups were formed when the potsherds
exhibited characteristic features that would not fit into the existing technological
groups.